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PATENT

IS-US000173

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Nobuki HASHIGUCHI et al.

Serial No.: PCT/JP01/03826

Filed: Herewith

For: PRODUCTION MANAGEMENT
SYSTEM AND SYSTEM FOR
CHECKING OPERATING CONDITIONS
OF PRODUCT PROCESSING
APPARATUSES

PRELIMINARY AMENDMENT

Assistant Commissioner of Patents
Washington, DC 20231

Sir:

Prior to examination of the above-identified application, please amend the subject application as follows:

IN THE SPECIFICATION

Paragraph beginning on page 8, line 15 has been amended as follows.

The information terminal 4a may be a personal computer, work station or the like; it is connected to the communications line 5 via a network interface. The information terminal 4a has a web browser 11, an FTP server 12, and an email client 13, as well as a memory 18. The web browser 11 can access the web server 34 of the product processing apparatus (2a through 2d). The web browser 11 uses IP addresses and the like to identify the product processing apparatus (2a through 2d) with which it is to communicate, and causes the display of HTML documents and the like stored in the web server 34 thereof. The FTP server 12 can send files to and receive files from the FTP client 36. The email client 13 can receive email from the email server (not shown in figure). The information terminal 4a also has a memory 18 (second memory means). The memory 18 stores the aforementioned HTML

documents, email and files sent from other communicating parties. The memory 18 is used in particular for the storage of various types of image files sent to the FTP server 12 from the FTP client 36.

Paragraph beginning on page 12, line 9 has been amended as follows.

Stored in the memory 32 (first storage means) are the following: the aforementioned error information, drive conditions, and operating conditions, as well as HTML documents used by the web server 34 (to be discussed below), image files created by image file conversion means, email used by the email client 35 (to be discussed below), print data used by the FTP client 36 (to be discussed below) and the like.

Paragraph beginning on page 18, line 21 has been amended as follows.

In Step S1, the web server 34 receives access from the web browser 11.

IN THE ABSTRACT:

The paragraph beginning on page 31, line 4 has been deleted.

The paragraph beginning on page 31, line has been amended as follows.

A production management system 1 includes a production line 2, a plurality of image-taking components 22 and a communications line 5. The production line 2 includes a combination weigher 2a and a bagger 2b. The communications line 5 is capable of distributing operating conditions from the combination weigher 2a and the bagger 2b. The plurality of image-taking components 22 are provided at the combination weigher 2a and the bagger 2b respectively, and are used for checking operating conditions. The communications line 5 is capable of distributing image information from the plurality of image-taking components 22. The present invention provides at low cost a production management

system having a production line that includes a combination weigher and a bagger and is capable of using image information for monitoring.

IN THE CLAIMS:

Claims 1, 3-10, and 13-15 have been amended as follows.

1. (Amended) A production management system, comprising:

a production line including a plurality of product processing apparatuses, said plurality of product processing apparatus having at least one of a combination weigher and bagger;

a network that connects said plurality of product processing apparatuses; and

a plurality of image-taking means for producing image information by taking images of operating conditions of said product processing apparatuses, said image-taking means provided at each of said product processing apparatuses;

wherein:

said network is capable of distributing the image information from said plurality of image-taking means.

3. (Amended) A production management system according to claim 1, further comprising

control means for controlling said product processing apparatuses based the on image information distributed by said network.

4. (Amended) A production management system according to claim 1, further comprising

warning means for issuing a warning, said warning means having reference image information and issuing a warning based on comparison between the image information and said reference image information.

5. (Amended) A production management system according to claim 1, further comprising
storage means for storing said image information.

6. (Amended) A system for checking operating conditions of product processing apparatuses, comprising:
image-taking means for producing image information by taking images of operating conditions of the product processing apparatuses; and
storage means for storing image information obtained by said image-taking means.

7. (Amended) A system for checking operating conditions of product processing apparatuses according to claim 6, wherein:
said storage means stores image information from said image-taking means, said image information relating to operating conditions of the product processes apparatuses taken at a plurality of locations.

8. (Amended) A system for checking operating conditions of product processing apparatuses according to claim 6, wherein:
said storage means stores image information from said image-taking means, said image information relating to operating conditions of the product processes apparatuses being taken at different times.

9. (Amended) A system for checking operating conditions of product processing apparatuses according to claim 6, further comprising
abnormality detection means for detecting abnormalities in the operating conditions of the product processing apparatuses.

10. (Amended) A system for checking operating conditions of product processing apparatuses according to claim 9, further comprising

display means for displaying said image information,

wherein:

when detection of abnormality information is received from said abnormality detection means, said display means displays image information of the location where an abnormality has occurred, said image information being taken from before and until after occurrence of said abnormality and stored in said storage means.

13. (Amended) A system for checking operating conditions of product processing apparatuses according to claim 12, wherein:

said second storage means stores at least one of image information of operating conditions of the plurality of product processing apparatuses, image information of operating conditions taken from a plurality of locations at each product processing apparatus, and image information of operating conditions taken at different times.

14. (Amended) A system for checking operating conditions of product processing apparatuses according to claim 11, further comprising

abnormality detection means for detecting abnormalities in the operating conditions of the product processing apparatuses.

15. (Amended) A system for checking operating conditions of product processing apparatuses according to claim 14, further comprising

display means for displaying said image information, and

second storage means for storing said image information distributed by said image distribution device,

wherein:

when detection of abnormality information is received from said abnormality detection means, said display means displays image information of the location where an abnormality has occurred, said image information being taken from before and until after the occurrence of the abnormality and being stored in said second storage means.

REMARKS

Entrance of this Amendment is respectfully requested. Attached hereto is a marked-up version of the changes made to the specification and claims by the current Amendment. The pages captioned "MARKED-UP VERSION OF AMENDMENTS" include the marked-up version of the changes made to the specification and claims by the current Amendment.

Respectfully submitted,



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G:\Dec-SMMIS-US000173 Preliminary Amendment

MARKED-UP VERSION OF AMENDMENTS

IN THE SPECIFICATION:

Paragraph beginning on page 8, line 15 has been amended as follows.

The information terminal 4a may be a personal computer, work station or the like; it is connected to the communications line 5 via a network interface. The information terminal 4a has a web browser 11, an FTP server 12, and an email client 13, as well as a memory 18. The web browser 11 can access the web server 34 of the product processing apparatus (2a through 2d). The web browser 11 uses IP addresses and the like to identify the product processing apparatus (2a through 2d) with which it is to communicate, and causes the display of HTML documents and the like stored in the web server 34 thereof. The FTP server 12 can send files to and receive files from the FTP client 36. The email client 13 can receive email from the email server (not shown in figure). The information terminal 4a also has a memory 18 (second memory means). The memory 18 stores the aforementioned HTML documents, email and files sent from other communicating parties. The memory 18 is used in particular for the storage of various types of image files sent to the FTP server 12 from the FTP client 36.

Paragraph beginning on page 12, line 9 has been amended as follows.

Stored in the memory 32 (first storage means) are the following: the aforementioned error information, drive conditions, and operating conditions, as well as HTML documents used by the web server 34 (to be discussed below), image files created by image file conversion means, email used by the email client 35 (to be discussed below), print data used by the FTP client 36 (to be discussed below) and the like.

Paragraph beginning on page 18, line 21 has been amended as follows.

In Step S1, the web server 34 receives ~~awaits~~ access from the web browser 11.

IN THE ABSTRACT:

Please delete the paragraph beginning on page 31, line 4.

Please amend the paragraph beginning on page 31, line as follows.

A production management system 1 includes a production line 2, a plurality of image-taking components 22 and a communications line 5. The production line 2 includes a combination weigher 2a and a bagger 2b. The communications line 5 is capable of distributing operating conditions from the combination weigher 2a and the bagger 2b. The plurality of image-taking components 22 are provided at the combination weigher 2a and the bagger 2b respectively, and are used for checking operating conditions. The communications line 5 is capable of distributing image information from the plurality of image-taking components 22. The present invention provides at low cost a production management system having a production line that includes a combination weigher and a bagger and is capable of using image information for monitoring.

IN THE CLAIMS:

Claims 1, 3-10, and 13-15 have been amended as follows.

1. (Amended) A production management system, comprising:

a production line including such a plurality of product processing apparatuses, said plurality of product processing apparatus having at least one of as a combination weigher and bagger;

a network that connects said plurality of product processing apparatuses; and

a plurality of image-taking means for producing image information by taking images of operating conditions of said product processing apparatuses, said image-taking means provided at each of said product processing apparatuses;

wherein:

said network is capable of distributing the image information from said plurality of image-taking means.

3. (Amended) A production management system according to ~~either claim 1 or claim 2~~, further comprising

control means for controlling said product processing apparatuses based the on image information distributed by said network.

4. (Amended) A production management system according to ~~any of claims 1 through 3~~, further comprising

warning means for ~~comparing said image information and reference image information and~~ issuing a warning, said warning means having reference image information and issuing a warning based on comparison between the image information and said reference image information ~~when necessary~~.

5. (Amended) A production management system according to claim ~~any of claims 1 through 4~~, further comprising

storage means for storing said image information.

6. (Amended) A system for checking operating conditions of product processing apparatuses, comprising:

image-taking means for producing image information by taking images of operating conditions of the product processing apparatuses; and

storage means for storing image information obtained by said image-taking means.

7. (Amended) A system for checking operating conditions of product processing apparatuses according to claim 6, wherein:

said storage means stores image information from said image-taking means, said image information relating to operating conditions of the product processes apparatuses taken at a plurality of locations.

8. (Amended) A system for checking operating conditions of product processing apparatuses according to ~~either of claim 6 or claim 7~~, wherein:

said storage means stores image information from said image-taking means, said image information relating to operating conditions of the product processes apparatuses being taken at different times.

9. (Amended) A system for checking operating conditions of product processing apparatuses according to claim ~~any of claims 6 through 8~~, further comprising

abnormality detection means for detecting abnormalities in the operating conditions of the product processing apparatuses.

10. (Amended) A system for checking operating conditions of product processing apparatuses according to claim 9, further comprising

display means for displaying said image information,
wherein:

when detection of abnormality information is received from said abnormality detection means, said display means displays image information of the location where an abnormality has occurred, said image information being taken from before and until after occurrence of said abnormality and stored in said storage means.

13. (Amended) A system for checking operating conditions of product processing apparatuses according to claim 12, wherein:

said second storage means stores at least one of image information of operating

conditions of the plurality of product processing apparatuses, ~~or~~ image information of operating conditions taken from a plurality of locations at each product processing apparatus, and ~~or~~ image information of operating conditions taken at different times.

14. (Amended) A system for checking operating conditions of product processing apparatuses according to ~~any of claims claim 11 to 13~~, further comprising abnormality detection means for detecting abnormalities in the operating conditions of the product processing apparatuses.

15. (Amended) A system for checking operating conditions of product processing apparatuses according to claim 14, further comprising display means for displaying said image information, and second storage means for storing said image information distributed by said image distribution device.

wherein:

when detection of abnormality information is received from said abnormality detection means, said display means displays image information of the location where an abnormality has occurred, said image information being taken from before and until after the occurrence of the abnormality and being stored in said second storage means.